Office-Supreme Court, U.S.
FILED
JAN 31 1983
STEVAS,
CLERK

No. 82-545

In the Supreme Court of the United States

OCTOBER TERM, 1982

UNITED STATES NUCLEAR REGULATORY COMMISSION AND THE UNITED STATES OF AMERICA, PETITIONERS

v.

NATURAL RESOURCES DEFENSE COUNCIL, INC., ET AL.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE PETITIONERS

REX E. LEE
Solicitor General

CAROL E. DINKINS
Assistant Attorney General

LOUIS F. CLAIBORNE
Deputy Solicitor General

JOHN H. GARVEY
Assistant to the Solicitor General

JACQUES B. GELIN
DAVID C. SHILTON
Attorneys

Department of Justice
Washington, D.C. 20530
(202) 633-2217

MARTIN G. MALSCH
Acting General Counsel

E. LEO SLAGGIE
Acting Solicitor

RICHARD S. MALLORY
Attorney

Nuclear Regulatory Commission
Washington, D.C. 20555

QUESTIONS PRESENTED

1. Whether the Nuclear Regulatory Commission violated the National Environmental Policy Act in adopting a "fuel cycle" rule (which specifies environmental releases from high level waste disposal and other uranium fuel cycle operations, for use in nuclear power plant environmental impact statements) because the rule does not permit reconsideration, in individual licensing proceedings, of uncertainties in the prospects for safe high level waste disposal.

2. Whether the original and interim versions of the "fuel cycle" rule forbade consideration in individual cases of health, socioeconomic, cumulative, and similar effects from the releases specified in the rule, and were consequently invalid.*

---

* The proceedings in the court of appeals encompassed four consolidated cases: Nos. 74-1586, 77-1448, 79-2110, and 79-2131 (D.C. Cir.). Petitioners in those proceedings were Natural Resources Defense Council, Inc. (Nos. 74-1586, 77-1448, and 79-2131), Consolidated National Intervenors (No. 74-1586), and the State of New York (No. 79-2110). Respondents in all four cases were the United States Nuclear Regulatory Commission and the United States. Intervenors in various of the consolidated cases were: Baltimore Gas and Electric Company, Boston Edison Company, Carolina Power & Light Company, Commonwealth Edison Company, The Connecticut Light and Power Company, Consumers Power Company, The Detroit Edison Company, Exxon Nuclear Company, Inc., The Hartford Electric Light Company, Long Island Lighting Company, New England Electric System, Niagara Mohawk Power Corporation, Northeast Nuclear Energy Company, Northeast Utilities Service Company, Omaha Public Power District, Pacific Gas and Electric Company, Pacific Legal Foundation, Pennsylvania Power & Light Company, Philadelphia Electric Company, Power Authority

---

of the State of New York, Public Service Company of Indiana, Inc., Public Service Electric and Gas Company, Rochester Gas and Electric Corporation, San Diego Gas & Electric Company, Southern California Edison Company, Tennessee Valley Authority, Virginia Electric and Power Company, Western Massachusetts Electric Company, the State of Wisconsin, and Yankee Atomic Electric Company.

TABLE OF CONTENTS

	Page
Opinion below	1
Jurisdiction	1
Statute and regulations involved	2
Statement	2
A. The statutory and regulatory background	3
B. The original rule	4
C. The interim rule	7
D. *Vermont Yankee Nuclear Power Corp.* v. *NRDC*	10
E. The final rulemaking	11
F. The court of appeals' decision	15
Summary of argument	18
Argument:	
I. The court of appeals improperly directed the NRC to follow procedures not required by NEPA	21
A. Determination of the environmental impact of waste disposal by rulemaking is accurate, efficient, and fair	21
B. Determination of the environmental impact of waste disposal by rulemaking is consistent with the procedural requirements of NEPA	25
C. The procedures mandated by the court of appeals exceed those required by NEPA	31
II. The court of appeals improperly imposed on the NRC its own views about the proper value to be given to environmental concerns	36

Argument—Continued Page

III. The original and interim rules did not preclude consideration in individual licensing proceedings of the health, socioeconomic, and cumulative effects of the uranium fuel cycle 45

Conclusion 49

TABLE OF AUTHORITIES

Cases:

Aeschliman v. *NRC*, 547 F.2d 622, rev'd, 435 U.S. 519 10
Bowman Transportation, Inc. v. *Arkansas-Best Freight System, Inc.*, 419 U.S. 281 40
Calvert Cliffs' Coordinating Committee, Inc. v. *AEC*, 449 F.2d 1109 ..... 16, 31, 32, 33
Citizens to Preserve Overton Park v. *Volpe*, 401 U.S. 402 40
Commonwealth Edison Co. v. *Natural Resources Defense Council, Inc.*, cert. granted, No. 82-551 (Nov. 29, 1982) 1
Ecology Action v. *AEC*, 492 F.2d 998 ..... 23, 24
Environmental Defense Fund, Inc. v. *Corps of Engineers*, 492 F.2d 1123 35
Flint Ridge Development Co. v. *Scenic Rivers Association*, 426 U.S. 776 32
Kleppe v. *Sierra Club*, 427 U.S. 390 ..... 27, 31, 37
Minnesota v. *NRC*, 602 F.2d 412 ..... 12, 43
Natural Resources Defense Council, Inc. v. *NRC*, 547 F.2d 633, rev'd, 435 U.S. 519 ..... 6, 9, 33, 47-48
Natural Resources Defense Council, Inc. v. *NRC*, 582 F.2d 166 ..... 10, 38
Natural Resources Defense Council, Inc. v. *SEC*, 606 F.2d 1031 35
Philadelphia Council of Neighborhood Organizations v. *Coleman*, 437 F.Supp. 1341, aff'd, 578 F.2d 1375 29
Potomac Alliance v. *NRC*, 682 F.2d 1030 44
Potomac Electric Power Co. (Douglas Point Nuclear Generating Station, Units 1 and 2), In re, 8 A.E.C. 79 46

Cases—Continued Page

Public Service Co. of Indiana, Inc. (Marble Hill Nuclear Generating Station, Units 1 and 2), In re, 7 N.R.C. 179 48
Scientists' Institute for Public Information, Inc. v. *AEC*, 481 F.2d 1079 29
Sierra Club v. *Morton*, 514 F.2d 856, rev'd, 427 U.S. 390 33
Strycker's Bay Neighborhood Council, Inc. v. *Karlen*, 444 U.S. 223 37
Students Challenging Regulatory Agency Procedures v. *United States*, 371 F.Supp. 1291, rev'd, 422 U.S. 289 33
Tennessee Valley Authority (Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B), In re, 5 N.R.C. 92 ..... 10, 48
Upper West Fork River Watershed Association v. *Corps of Engineers*, 414 F. Supp. 908, aff'd, 556 F.2d 576, cert. denied, 434 U.S. 1010 29
Vermont Yankee Nuclear Power Corp. v. *NRDC*, 435 U.S. 519 ..... *passim*
Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), In re, 4 A.E.C. 930 4
Weinberger v. *Catholic Action*, 454 U.S. 139 ..... 28, 30, 31

Statutes and regulations:

Administrative Procedure Act, 5 U.S.C. 551 *et seq.*
5 U.S.C. 553 10
5 U.S.C. 706 40
Atomic Energy Act, 42 U.S.C. (& Supp. IV) 2011 *et seq.* 3, 5, 9, 44
National Environmental Policy Act, 42 U.S.C. 4321 *et seq.* 2
Section 102, 42 U.S.C. 4332 ..... 2, 19, 32, 36
Section 102(2)(A)-(H), 42 U.S.C. 4332(2)(A)-(H) 32
Section 102(2)(B), 42 U.S.C. 4332(2)(B) 35
Section 102(2)(C), 42 U.S.C. 4332(2)(C) ..... *passim*

Statutes and regulations—Continued — Page

Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425, 96 Stat. 2201 *et seq.* 20, 42
Section 111(b)(1), 96 Stat. 2207 43
Section 112(b), 96 Stat. 2208 42
Section 114((a)(2)(A), 96 Stat. 2213 42
Section 114(a)(2)(B), 96 Stat. 2214 42
Section 114(d), 96 Stat. 2215 ..... 42, 44
Section 114(f), 96 Stat. 2216 44
Section 115(b), 96 Stat. 2217 42
Section 115(c), 96 Stat. 2217 42
Section 121, 96 Stat. 2228 42

1 C.F.R.:

Section 305.72-5 ..... 23, 36
Section 305.73-6(b) 24

10 C.F.R.:

Section 2.721 ..... 28, 33
Section 2.760 ..... 28, 33
Section 2.785 ..... 28, 33
Section 2.786 ..... 28, 33
Section 51.20 27
Section 51.20(b) 35
Section 51.20(e) 2, 3, 4, 14, 28, 30
Section 51.20(g) 3
Section 51.23(c) 2, 4, 14, 28, 30, 35, 46
Section 51.26 28
Section 51.26(a) 14, 28, 30, 35

10 C.F.R. Part 170 25

40 C.F.R.:

Section 1502.21 29
Section 1508.7 16
Section 1508.8 16
Section 1508.14 46

Miscellaneous:

AEC Authorizing Legislation Fiscal Year 1974: Hearings Before the Joint Comm. on Atomic Energy, 93d Cong., 1st Sess., Pt. 2 (1973) 25

Miscellaneous—Continued

Page

Calvert Cliffs' Court Decision: Hearing Before the Senate Comm. on Interior and Insular Affairs, 92d Cong., 1st Sess., Pt. 1 (1971) 25

Comment, *Implementing the National Environmental Policy Act Through Rulemaking: The Implications of Natural Resources Defense Council, Inc.* v. *Nuclear Regulatory Commission*, 126 U. Pa. L. Rev. 148 (1977) 23

115 Cong. Rec. (1969):

p. 29055 26
p. 29059 27

Council on Environmental Quality, *Environmental Impact Statements: An Analysis of Six Years' Experience by Seventy Federal Agencis* (1976) .. 25

Environmental Protection Agency, *Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes*, 47 Fed. Reg. 58196 (1982) ... 41

Environmental Survey of the Uranium Fuel Cycle, WASH-1248 (1974) 4, 5, 6, 29, 35

37 Fed. Reg. (1972):

p. 24191 ..... 4, 24
p. 24192 ..... 5, 22

41 Fed. Reg. (1976):

p. 34707 7
p. 45849 8
pp. 45850-45851 8

42 Fed. Reg. (1977):

p. 26987 11
pp. 34391-34393 9
p. 34393 10

44 Fed. Reg. (1979):

p. 61372 44
pp. 61372-61373 13

46 Fed. Reg. (1981):

p. 15154 15
p. 15155 ..... 39, 48

Miscellaneous—Continued

Page

47 Fed. Reg. 58197 (1982) 41
H.R. Rep. No. 91-765, 91st Cong., 1st Sess. (1969) .. 32
H.R. Rep. No. 97-491 (Pt. 1), 97th Cong., 2d Sess. (1982) 43
N. Orloff & G. Brooks, *The National Environmental Policy Act* (1980) 32
Report to the President by the Interagency Review Group on Nuclear Waste Management (1979) ... 41-42
S. Rep. No. 91-296, 91st Cong., 1st Sess. (1969) 19, 26, 28, 36
S. Rep. No. 97-282, 97th Cong., 1st Sess. (1981) 43
U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, *Environmental Survey of the Reprocessing and Waste Management Portions of the LWR Fuel Cycle*, NUREG-0116 (Supp. 1 to WASH-1248) (1976) .. 7, 8, 9, 13, 22, 29, 35, 37, 46
U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, *Public Comments and Task Force Responses Regarding the Environmental Survey of the Reprocessing and Waste Management Portions of the LWR Fuel Cycle*, NUREG-0216 (Supp. 2 to WASH-1248) (1977) 5, 9, 29, 35, 46, 47

In the Supreme Court of the United States

OCTOBER TERM, 1982

No. 82-545

UNITED STATES NUCLEAR REGULATORY COMMISSION AND THE UNITED STATES OF AMERICA, PETITIONERS

v.

NATURAL RESOURCES DEFENSE COUNCIL, INC., ET AL.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE PETITIONERS

OPINION BELOW

The opinion of the court of appeals (Pet. App. 1a-181a)[1] is reported at 685 F.2d 459.

JURISDICTION

The judgment of the court of appeals (Pet. App. 182a-184a) was entered on April 27, 1982. A petition for rehearing was denied on June 30, 1982 (Pet. App. 185a-187a). The petition for a writ of certiorari was

[1] "Pet. App." refers to the appendix to the petition for a writ of certiorari in *Commonwealth Edison Co.* v. *Natural Resources Defense Council, Inc.*, cert. granted, No. 82-551 (Nov. 29, 1982).

filed on September 27, 1982, and granted on November 29, 1982. The jurisdiction of this Court rests on 28 U.S.C. 1254(1).

STATUTE AND REGULATIONS INVOLVED

Section 102 of the National Environmental Policy Act, 42 U.S.C. 4332, is reproduced at Pet. App. 431a-434a. The original, interim, and amended interim versions of the Table S-3 rule are reproduced at Pet. App. 237a-239a, 254a-258a, and 271a-273a. The final version of the Table S-3 rule, 10 C.F.R. 51.20(e) and 51.23(c), is reproduced at Pet. App. 378a-383a.

STATEMENT

This case brings again to this Court a decision by the Court of Appeals for the District of Columbia Circuit holding invalid the United States Nuclear Regulatory Commission's ("NRC") uranium fuel cycle rule. The rule applies in proceedings for licensing nuclear power reactors, and requires that for purposes of the National Environmental Policy Act, 42 U.S.C. 4321 *et seq.* ("NEPA"), the environmental impacts of off-site fuel cycle activities necessary to support a nuclear plant are to be based on a generic table of values ("Table S-3"). At issue are the values in Table S-3 that represent radioactive effluents associated with management and disposal of wastes produced annually by a typical light water reactor. In *Vermont Yankee Nuclear Power Corp.* v. *NRDC*, 435 U.S. 519 (1978) (*"Vermont Yankee"*), this Court reversed an earlier decision of the court of appeals invalidating the Commission's original Table S-3 rule on procedural grounds, and remanded for the court of appeals to review the rule "as the Administrative Procedure Act provides" (*id.* at 549). The court of appeals consolidated that case on remand with petitions for re-

view of later versions of the rule (the "interim" and "final" rules) and held that all three versions, in various ways, violated NEPA.

A. The Statutory And Regulatory Background

In *Vermont Yankee, supra*, 435 U.S. at 525-527, this Court described the process for licensing nuclear power plants under the Atomic Energy Act, 42 U.S.C. (& Supp. IV) 2011 *et seq.*, and NEPA. The fuel cycle rule is part of the Commission's approach to meeting its NEPA obligations in reactor licensing proceedings. The NRC has determined that the environmental impacts of operating a nuclear power reactor include offsite activities necessary to provide fuel for the plant ("front end" activities) and later to dispose of its waste ("back end" of the fuel cycle),[2] and that fuel cycle impacts need to be addressed in the NEPA analysis for a proposed power reactor. The NRC has concluded that in reactor licensing proceedings these impacts are best described generically (Pet. App. 345a-346a):

---

[2] The fuel cycle activities addressed by the rule include uranium mining and milling, the production of uranium hexafluoride, isotopic enrichment, fuel fabrication, reprocessing of irradiated fuel, some aspects of transportation of radioactive materials, and management of low-level wastes and high-level wastes. See 10 C.F.R. 51.20(e) and (g). The aspects of the rule under review in these consolidated cases deal with impacts of reprocessing and waste management, the so-called "back end" of the fuel cycle. In preparing the rule the Commission assumed that reprocessing, if undertaken at all, would be used only to recover uranium-235 from spent fuel, with plutonium treated as a waste product. Accordingly, the rule may be appropriately characterized as dealing with the "uranium fuel cycle." The entries in Table S-3 are "maximized for either of the two fuel cycles (uranium only and no recycle)." 10 C.F.R. 51.20(e), Table S-3 n.1.

> Fuel cycle facilities serve many reactors, and there is no way to ascertain * * * which facility now in existence or to be operated in the future will contribute fuel to a given nuclear power reactor or will receive its irradiated fuel or wastes. * * * [I]n reactor licensing fuel cycle impacts should be treated where possible by generic rulemaking rather than case-by-case adjudication.

The form which the Commission chose for its fuel cycle rule was a table of values (Table S-3) to be used in individual licensing proceedings as a basis for evaluating the likely contribution of fuel cycle activities to the environmental impact of light water reactors. The original, interim, and final rules at issue in this case all incorporate a version of Table S-3 as the starting point for this evaluation. See 10 C.F.R. 51.20(e) & Table S-3, 51.23(c), and 51.26(a).

B. The Original Rule

In 1972 the Atomic Energy Commission proposed two alternative rules to address the significance of fuel cycle impacts in reactor licensing proceedings.[3] 37 Fed. Reg. 24191. Under one approach applicants' environmental reports and Commission impact statements would not need to consider fuel cycle impacts at all, because the Commission staff's *Environmental Survey of the Uranium Fuel Cycle*, WASH-1248 (1974) ("WASH-1248") had shown that these impacts, "when factored into the [reactor] cost-benefit analysis, are sufficiently small as not to affect sig-

[3] The proposed rulemaking responded to earlier decisions by the Commission's Appeal Board holding that fuel cycle impacts did not fall within the scope of reactor licensing proceedings. *In re Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station)*, 4 A.E.C. 930 (1972).

nificantly the resultant conclusion" (37 Fed. Reg. 24192 (1972)). Under the alternative approach the impacts set out in Table S-3 of WASH-1248 would be explicitly set forth in the environmental report and impact statement for a light-water reactor. In 1974, after considering public comments and holding an informal rulemaking hearing, the Commission adopted the second alternative (Pet. App. 224a).[4] Table S-3 presented a numerical compilation of the estimated resources used and effluents released by fuel cycle activities supporting a year's operation of a typical light water reactor.[5] The rule stated that in environmental reports and impact statements the contribution of the fuel cycle to the environmental costs of licensing a power reactor "shall be as set forth" in Table S-3

---

[4] The rule was adopted pursuant to the Commission's rulemaking authority under the Atomic Energy Act, 42 U.S.C. (& Supp. IV) 2011 *et seq.*

[5] The tabulated impacts in Table S-3 include the acres of land committed to fuel cycle activities, the amount of water discharged by such activities, fossil fuel consumption, and chemical and radiological effluents (in curies), all normalized to the annual fuel requirement for a model 1000 MWe light-water reactor.

Notations accompanying the tabulated values in the original Table S-3 included a few radiological doses in man-rem, but no estimates were given of human health effects caused by radiological effluents. WASH-1248 gave no quantitative estimates of health effects but did note (*id.* at S-22, S-24) that estimated doses were very small compared to doses from natural background radiation. A later supplement to WASH-1248, issued to support the interim rule, included estimates of health effects. U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, *Public Comments and Task Force Responses Regarding The Environmental Survey Of The Reprocessing And Waste Management Portions Of The LWR Fuel Cycle*, NUREG-0216 (Supp. 2 to WASH-1248), App. C (1977) ("NUREG-0216").

and that "[n]o further discussion of such environmental effects shall be required" (Pet. App. 237a).

Respondent Natural Resources Defense Council, Inc. ("NRDC") and others challenged the Table S-3 rule in the court of appeals, which held the rule invalid because of perceived inadequacies in the Commission's rulemaking procedures. *Natural Resources Defense Council, Inc.* v. *NRC*, 547 F.2d 633 (D.C. Cir. 1976), rev'd, 435 U.S. 519 (1978). The court viewed Table S-3 as expressing "in numerical terms the conclusion that the environmental effects of the fuel cycle, including waste disposal, are insubstantial" (547 F.2d at 646; footnote omitted). It found that for most phases of the fuel cycle WASH-1248 gave ample support for the Table, but that for reprocessing and waste disposal adequate support was missing from WASH-1248 and had not been provided at the hearing, where the only discussion of high level waste disposal was a 20-page statement by a Commission witness which the court found "vague" and "conclusory" (*id.* at 647-649). The court attributed the deficiency to the lack of a "genuine dialogue" which might have been created by "procedural devices" to "flesh out the record" (*id.* at 653).

Judge Tamm, who concurred in vacating the rule, disagreed with the majority's remand for initiation of more proceedings. Finding the record inadequate on waste storage, Judge Tamm stated (547 F.2d at 661; footnotes omitted):

> The appropriate remedy at this point is not to impose ad hoc procedural requirements * * * but to remand for an explanation of the basis of Dr. Pittman's statements and of the staff's numerical conclusions, *i.e.*, for the documentation which the majority finds so conspicuously lacking. The Commission should be able to supply the

court with a statement of the methods by which its staff arrived at the figures embodied in Table S-3 and by which Dr. Pittman concluded that the waste storage problem is already technologically and economically soluable. If it cannot, then we will have no choice but to invalidate the Commission's rule under the "arbitrary, capricious" standard; if it can, we should defer to the administrative weighing of risks and benefits of additional reactors.

C. The Interim Rule

Following the court of appeals' decision, the NRC issued a general statement of policy (41 Fed. Reg. 34707 (1976)), which directed the Commission's technical staff to prepare a revised and well-documented environmental survey of waste management and reprocessing impacts to serve as the basis for an interim rule. The revised survey was published in October 1976. U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, *Environmental Survey of the Reprocessing and Waste Management Portions of the LWR Fuel Cycle*, NUREG-0116 (Supp. 1 to WASH-1248) (1976) ("NUREG-0116").[6]

NUREG-0116 proposed revisions of the reprocessing and waste management impacts in the original Table S-3, based in part on representative model facilities. For example, the contributions to the Table S-3 impacts from anticipated disposal of high-level and transuranic waste were based on deep burial in bedded salt (*id.* at 2-9). A large part of NUREG-0116 discussed disposal of long-lived nuclear waste by geological isolation (*id.* at 4-71 to 4-116). The discussion included a section on long-term risks (*id.* at

[6] Copies of NUREG-0116 have been lodged with the Court.

4-86 to 4-99), which addressed possible causes and consequences of repository failure. There were 34 references accompanying this section, representing both optimistic and pessimistic views of the outlook for safe waste disposal (*id.* at 4-94, 4-187 to 4-188).

The Commission proposed that the revised Table S-3 be adopted as an interim rule pending a public hearing and promulgation of a final rule (41 Fed. Reg. 45849 (1976)). In stating its conclusion that NUREG-0116 provided adequate support for the proposed rule, the Commission noted the tentative nature of its conclusions (*id.* at 45850-45851):

> With respect to risks from long term repository failure, representative studies have been done with varying degrees of depth and sophistication, but there are still uncertainties in areas such as the effect of waste presence on repository stability; the probabilities and consequences of various types of intrusive acts by humans; the availability of data to be used in modeling studies; the design and regulatory actions needed to minimize possibilities of repository failure; projection of future societal habits and demography, and, finally, the relative importance of the various potential initiating events. Research programs are underway which should resolve most of these uncertainties over the next few years.

In March 1977 the NRC promulgated the interim Table S-3 rule, which did not differ significantly from the original rule (Pet. App. 240a-258a).[7] In further

---

[7] On promulgating the interim rule, the NRC terminated license revocation proceedings which had been initiated when the court of appeals invalidated the original rule. The Commission said that "the values in the new interim rule are not sufficiently different from the values in the original Table S-3 to warrant revocation or suspension on cost-benefit grounds [of previously issued licenses]" (Pet. App. 253a).

support of the interim rule the NRC published NUREG-0216, *supra* note 5, containing public comments on NUREG-0116, NRC's responses to the comments, and other supplementary material.[8] The Commission stated that NUREG-0116 and NUREG-0216 "contain a detailed analysis of the impacts of waste management and reprocessing and provide a sufficient informational basis for the interim rule" (Pet. App. 247a). Like the original rule, the interim rule provided that no further discussion of fuel cycle impacts "shall be required" (Pet. App. 255a). The interim rule did not specifically address fuel cycle health effects or other impacts apart from those set out explicitly in Table S-3, although Appendix C of NUREG-0216 contained an extensive discussion of radiation health effects.

NRDC petitioned for review of the interim rule. The court of appeals suspended briefing and argument pending the outcome of this Court's review of its decision in *Natural Resources Defense Council, Inc.* v. *NRC*, *supra* (Pet. App. 195a).[9]

---

[8] Copies of NUREG-0216 have been lodged with the Court.

[9] Shortly after promulgation of the interim rule, the Commission rejected a petition by NRDC requesting a separate rulemaking to determine whether continued reactor licensing, before the development of means for permanent waste disposal, was consistent with the Commission's obligation under the Atomic Energy Act, 42 U.S.C. (& Supp. IV) 2011 *et seq.*, to protect the public health and safety. The Commission concluded that "[r]easonable progress towards the development of permanent disposal facilities" was being made, and that Congress had—in the process of its continuing oversight—ratified NRC's decision to proceed with reactor licensing. 42 Fed. Reg. 34391-34393 (1977). The Commission also found, after a review of the federal programs to develop an actual disposal facility, of NUREG-0116, NUREG-0216, and other materials, that "[t]he technology for disposal is reasonably

A year after the interim rule was promulgated, the NRC issued a clarifying amendment, which removed from Table S-3 an erroneous value for radon releases, a front-end fuel cycle impact not at issue here (Pet. App. 259a). The amendment also changed language in the rule to make clear that health effects were not covered by the Table and could be litigated in individual cases (*id.* at 265a). The NRC noted that its Appeal Board had already required that uranium fuel cycle health effects be considered in reactor licensing proceedings in comparing the uranium and fossil fuel cycles. *Ibid.*, citing *In re Tennessee Valley Authority* (*Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B*), 5 N.R.C. 92, 103 (1977).

D. *Vermont Yankee Nuclear Power Corp.* v. *NRDC*

In 1978 this Court reversed the court of appeals' decision invalidating the original Table S-3 rule. *Vermont Yankee, supra.* The Court found that neither the Administrative Procedure Act, 5 U.S.C. 553, nor NEPA required the use of procedures more formal or adjudicatory than those the NRC had employed in promulgating the original rule, and that the court of appeals had therefore erred in vacating the rule on procedural grounds (435 U.S. at 541-548).[10] The

---

available, and the studies done to date * * * are * * * promising for timely and safe implementation of the technology." 42 Fed. Reg. 34393 (1977). The Commission concluded that it "would not continue to license reactors if it did not have reasonable confidence that the wastes can and will in due course be disposed of safely" (*ibid.*). NRC's conclusion was upheld by the Second Circuit as consistent with the Atomic Energy Act. *Natural Resources Defense Council, Inc.* v. *NRC*, 582 F.2d 166, 168-172 (1978).

[10] In the same opinion the Court also reversed the decision in *Aeschliman* v. *NRC*, 547 F.2d 622 (D.C. Cir. 1976). In *Aeschliman* the court of appeals had found an environmental impact statement fatally defective for failure to explore energy

Court left open the question whether the original rule was adequately supported by the administrative record. The Court remanded for review of the sufficiency of the record and stated that on remand the court of appeals was "entirely free to agree or disagree with Judge Tamm's conclusion that the rule pertaining to the back end of the fuel cycle * * * is arbitrary and capricious within the meaning of § 10(e) of the Administrative Procedure Act * * *, even though it may not hold, as it did in its previous opinion, that the rule is invalid because of the inadequacy of the agency procedures" (435 U.S. at 536 n.14). The Court also indicated that the court of appeals had discretion on remand "to take due account, if appropriate, of any additions made to the record by the Commission" (*id.* at 537 n.14).[11]

E. The Final Rulemaking

In May 1977 the Commission had initiated proceedings to determine whether the interim rule should be made final (42 Fed. Reg. 26987). The procedures adopted for the final rulemaking (see Pet. App. 356a-360a) involved the filing before a hearing

---

conservation as an alternative to construction of a proposed plant (435 U.S. at 536-537). This Court held that the NRC, "unlike the Court of Appeals, [had properly] recognized that the Licensing Board's decision had to be judged by the information then available to it" (*id.* at 553). At the time the impact statement had been prepared the need for and the means of energy conservation were not matters given much attention. Moreover, the intervenors had done little to focus the NRC's consideration on those issues (*id.* at 550-554).

[11] Consistent with this direction and in compliance with the court of appeals' order of February 11, 1980 (Pet. App. 210a), the parties stipulated that the court of appeals could consider the material subsequently developed in the interim and final rulemaking when passing upon the original rule.

board of direct testimony and suggested questions by the participants, which included state and federal agencies, groups representing the nuclear industry and electric utilities, groups representing environmental interests, individual participants, and the NRC staff. The final rulemaking record included more than 1100 pages of direct testimony by the participants, written questions and several hundred pages of responses, together with more than 1200 transcript pages of oral hearings. The hearing board conducted ten days of oral hearings. It submitted to the Commission a 137-page report summarizing the record and identifying the major issues (see J.A. 264-280), and also submitted its Conclusions and Recommendations (Pet. App. 274a-338a). The board recommended that the Commission adopt Table S-3 essentially unchanged from the interim rule.

In 1979 the NRC adopted a final rule in accord with the hearing board's recommendations.[12] The state-

---

[12] The Commission modified the proposed table by adding a notation that the amount of technetium-99 released from waste management and fuel reprocessing, not in the Table, may be litigated in individual licensing proceedings (Pet. App. 375a-376a, 382a).

Two months before adoption of the final rule, the D.C. Circuit had declined to disturb NRC's decision to permit two nuclear power plants to expand their onsite storage of high-level waste. The petitioners in that case had argued that to do so would violate both the Atomic Energy Act and NEPA, because of the uncertainty about ultimate waste disposal. *Minnesota* v. *NRC*, 602 F.2d 412 (D.C. Cir. 1979). The court held, however, that the Commission should reexamine—either in connection with the pending S-3 proceeding or in a separate rulemaking—whether further licensing was consistent with the Atomic Energy Act's "health and safety" standard and whether disposal facilities would be available by the time the plants at issue closed down (*id.* at 418 & n.8, 419 n.10). In response to the court's decision the NRC undertook a generic

ment accompanying the notice of final rulemaking gave extensive attention to the impacts and uncertainties associated with disposal of high-level radioactive waste from power reactors (Pet. App. 363a-370a). The NRC acknowledged that there were uncertainties regarding (1) whether geologic sites meeting the criteria assumed in NUREG-0116 can in fact be found and developed, and (2) whether a repository would perform as expected. Regarding the first issue, the NRC found the evidence "tentative but favorable" and stated that the record was probably "as strong * * * as [it] can be made on the issue until a specific site has been thoroughly investigated and found to be suitable" (*id.* at 366a; footnote omitted).

Regarding the second question, the Commission found that "transport of materials out of the repository area [due to possible events such as water leakage] would take tens of thousands of years" (Pet. App. 369a). It also found that the probability of major releases caused through natural mechanisms was "very low" (*id.* at 370a), and that casual intrusions by man would be "virtually impossible" (*ibid.*). The Commission also concluded that any undue optimism about the likely performance of a repository was compensated for by the Table's conservative assumption that all volatile fission products would be released prior to sealing of the repository (*ibid.*).[13]

"waste confidence" proceeding to reassess whether wastes can be "safely disposed of, [and] to determine when any such disposal will be available * * *." 44 Fed. Reg. 61372-61373 (1979).

[13] The hearing board had noted in its recommendations that such rapid releases were unlikely (Pet. App. 320a).

The Commission rejected NRDC's suggestion that licensing boards, in performing the NEPA analysis for individual nuclear plants, be allowed to reexamine whether Table S-3 adequately describes waste disposal and other fuel cycle impacts (Pet. App. 368a-369a; footnote omitted):

> On the individual reactor licensing level, where the proceedings deal with fuel cycle issues only peripherally, the Commission sees no advantage in having licensing boards repeatedly weigh for themselves the effect of uncertainties on the selection of fuel cycle impacts for use in cost-benefit balancing. This is a generic question properly dealt with in the rulemaking as part of choosing what impact values should go into the fuel cycle rule. The Commission concludes, having noted that uncertainties exist, that for the limited purpose of the fuel cycle rule it is reasonable to base impacts on the assumption which the Commission believes the probabilities favor, *i.e.*, that bedded-salt repository sites can be found which will provide effective isolation of radioactive waste from the biosphere.

See also J.A. 291-293.

Such matters as health, socioeconomic, cumulative, and similar effects from the environmental releases listed in the Table must, according to the final rule, be addressed in the environmental impact statement for reactors and must be litigated in individual cases. 10 C.F.R. 51.20(e) & Table S-3 n.1, 51.23(c), and 51.26(a); Pet. App. 376a. The Commission also directed the staff to prepare for public comment an explanatory narrative addressing these subjects for possible inclusion in the final rule following a further proceeding (*ibid.*).[14]

---

[14] The staff submitted a draft narrative to the Commission in October 1979. The Commission published the narrative

F. The Court Of Appeals' Decision

NRDC and the State of New York filed petitions for review which were consolidated with the pending challenges to the original and interim versions of the rule. The court held all three versions invalid (Pet. App. 1a-181a).

Judge Bazelon, joined by Judge Edwards (sitting by designation), concluded that the final rule and its predecessors violated Section 102(2)(C) of NEPA, 42 U.S.C. 4332(2)(C), because they required licensing boards in individual proceedings to assume that high-level waste could be disposed of as indicated in Table S-3. Judge Bazelon conceded that the NRC had considered and disclosed the uncertainties attending that judgment in promulgating the fuel cycle rule.[15] He also said that he did "not decide * * * the reasonableness of the Commission's conclusion that the probabilities favor the zero-release assumption" (Pet. App. 35a n.96). He nevertheless found that waste disposal presented "significant environmental risks"—which he defined as "the product of the environmental damage that could occur and the probability of its occurrence" (*id.* at 36a & n.100). Such risks were them-

---

for comment, together with an accompanying proposed rule whereby most fuel cycle impacts would be eliminated from consideration in reactor licensing proceedings on the grounds that they are too small to affect the reactor cost-benefit balance. 46 Fed. Reg. 15154 (1981). Comments have been received, but there has been no final Commission action on this proposal.

[15] "In * * * the Statements of Consideration for the interim and final Rules, the Commission repeatedly acknowledged the uncertainties involved in its 'judgments' " (Pet. App. 35a n.97). "[T]he Commission [engaged in] investigation, analysis, and deliberation prior to the Rule's promulgation" (*id.* at 43a).

selves environmental "costs" for NEPA purposes (*id.* at 37a), and Section 102(2)(C) required "that environmental costs be considered 'at every stage where an overall balancing of environmental and nonenvironmental factors is appropriate'" (Pet. App. 46a, quoting *Calvert Cliffs' Coordinating Committee, Inc.* v. *AEC*, 449 F.2d 1109, 1118 (D.C. Cir. 1971)). Because proceedings before a licensing board were such a stage, the rule was invalid because it removed waste disposal uncertainties from the "ledger" (Pet. App. 44a) of costs and benefits drawn up by licensing boards in individual actions.[16]

The court also held that the original and interim rules were invalid because they precluded consideration of the tangible health, socioeconomic, cumulative, and similar effects caused by the impacts specified in Table S-3.[17] NEPA requires, the court stated, that such effects be disclosed in an environmental impact statement ("EIS") (Pet. App. 53a). See 40 C.F.R. 1508.7 and 1508.8. But the original and interim rules directed that "the contribution of the environmental effects of * * * fuel cycle activities * * * shall be as set forth in the following Table S-3 * * *. No further

---

[16] NRDC also argued that the fuel cycle rule was invalid because it did not permit consideration of other uncertainties in addition to the disposal problem. The court found that NRDC had not "indicated where those uncertainties lie or what values in the Table obscure them" (Pet. App. 50a). It nevertheless indicated that the NRC on remand was expected to extend its assessment of uncertainties to the entire Table (*id.* at 52a).

[17] Judge Wilkey did not concur in this portion of Judge Bazelon's opinion. He also did not address the issue in his dissenting opinion; he did state at one point, however, that the original rule "permitted no further discussion of [environmental] effects in individual procedings" (Pet. App. 138a n.60).

discussion of such environmental effects shall be required" (Pet. App. 237a, 254a-255a). Although the court did not find that the language of the rules unambiguously forbade consideration of health and other effects, it believed that the rule had been so interpreted. The court relied in particular on the NRC's statement (*id.* at 348a) that the rule " 'at least initially was apparently interpreted as cutting off further discussion of fuel cycle impacts' " (*id.* at 57a; footnote omitted).[18]

Judge Wilkey dissented (Pet. App. 118a-181a). He found the majority's opinion "no more than a giant step sideways from an analysis rejected unanimously by the Supreme Court in *Vermont Yankee*" (*id.* at 180a). Insofar as NEPA required consideration and disclosure of environmental consequences during the planning stage of agency actions, he said, its demands were satisfied by the NRC's careful consideration and explicit disclosure of any uncertainties attending waste disposal. The Act did not impose the further procedural requirement, added by the court, that those uncertainties be reconsidered in individual licensing proceedings (*id.* at 158a-163a). Judge Wilkey also concluded that the court had exceeded the limits on substantive review of agency decisions (*id.* at 166a). The choice to proceed with reactor licensing in light of the uncertainties recognized by the Commission was "a quintessential *policy judgment*" (*ibid.*; footnote omitted; emphasis in original), and by invalidating the rule because of its disagreement with that choice, the court had intervened in problems whose solution—if it is to be different from that advanced

---

[18] Judge Bazelon, joined by Judge Wilkey, rejected New York's argument that the effluent-release values in Table S-3 assumed the use of technology that is economically infeasible (Pet. App. 61a-69a).

by the NRC—is to be found along avenues of political redress (*id.* at 167a n.147).

SUMMARY OF ARGUMENT

I. This Court has made clear that "the only procedural requirements imposed by NEPA are those stated in the plain language of the Act." *Vermont Yankee*, *supra*, 435 U.S. at 548. The court of appeals held the Table S-3 rule invalid because the NRC failed to employ procedures favored by the court, but not required by NEPA.

A. The Commission's use of a rulemaking procedure to conclusively determine the environmental impact of radioactive waste disposal was desirable for a number of reasons. To begin with, assessment of the developing technology is a very complex matter, and it would be wasteful to repeat such consideration in individual licensing proceedings, especially when numerous power plants will use the same disposal facility. Moreover, the choice to rely on such technology rather than to halt construction of nuclear power plants is ultimately a policy judgment that should be made by the Commission, and not by individual licensing boards. Furthermore, employing rulemaking rather than adjudication can improve the caliber of public participation in the ultimate decision, since concerned groups are able to concentrate limited resources in one forum. Finally, conclusive determination in rulemaking has the effect of streamlining subsequent adjudication, thereby reducing the costs of licensing delay for utilities and consumers of electrical power.

B. The Commission's use of a conclusive rulemaking procedure also satisfied all the procedural requirements of NEPA. The consideration of environmental effects was undertaken "in the early stages of plan-

ning" (S. Rep. No. 91-296, 91st Cong., 1st Sess. 20 (1969)). Indeed, it took place even before "proposals for * * * major Federal actions"—in this case reactor construction—were made. 42 U.S.C. 4332(2)(C). The decision was also made by the most "responsible official" (*ibid.*)—the Commission itself. Table S-3 and the background documents supporting it are precisely the kind of "detailed statement" (*ibid.*) envisioned by NEPA. In the aggregate, they demonstrate that the NRC has given a decade of focused consideration to the nuclear fuel cycle contribution to the environmental effects of reactor licensing. Finally, the Commission has fully informed the public of its decision, both by allowing participation in the rulemaking and by requiring inclusion of Table S-3 in the environmental impact statement for each licensing proceeding.

C. The "decisionmaking structure mandated by" the court of appeals (Pet. App. 32a) has no foundation in NEPA. The court erred in reading the language of the Act ("to the fullest extent possible" (42 U.S.C. 4332)) to mean that licensing boards must be allowed to reconsider the prospects for waste disposal. The legislative history of the Act conclusively shows that Congress had no such intent. The court's requirement that the issue be adjudicated is in any event a useless exercise, since licensing boards' decisions are subject to review and reversal by the NRC. Moreover, the court's own description of how its demands were to be implemented demonstrates their inherent impracticality. One suggestion made by the court was that licensing boards employ "fictional values" (Pet. App. 44a) to integrate the effects of waste disposal into their cost/benefit analyses—a procedural requirement surely not contemplated by Congress. The only other means of implementing the

court's demands would be to replicate in each case the facts and inferences that underlie the Commission's decision—an approach that effectively undermines the compelling advantages of generic rulemaking.

II. Ultimately the court's decision to reject the Table S-3 rule rests on a disagreement with the NRC's judgment of the weight to assign the environmental "effect" of waste disposal. That substantive decision, however, is one that NEPA unequivocally leaves with the NRC. The NRC's conclusion that the hazards of waste disposal in a federal repository are adequately represented in Table S-3 has ample support in the record. It is also consistent with the conclusions subsequently reached by the Environmental Protection Agency, and more important, by Congress itself in the Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425, 96 Stat. 2201 *et seq.*

III. The court of appeals also erred in holding that the original and interim versions of Table S-3 were invalid because they forbade consideration of the health, socioeconomic, and cumulative effects of the impacts listed in the Table. The earlier versions, like the current one, precluded only further litigation of the effluent release values themselves. They did not attempt to translate those values into medical or social consequences, but left such matters to be determined in individual proceedings. It is true that parties did not attempt to litigate those matters for several years, though the most likely explanation is that the relevant effects were not deemed significant. The court and the respondents have pointed to no case where evidence of health, socioeconomic, and similar effects was excluded. As this Court said in *Vermont Yankee, supra*, 435 U.S. at 553, "it is * * * incumbent upon intervenors who wish to participate

to structure their participation * * * so that it alerts the agency to the intervenors' position and contentions."

ARGUMENT

I. THE COURT OF APPEALS IMPROPERLY DIRECTED THE NRC TO FOLLOW PROCEDURES NOT REQUIRED BY NEPA

In conclusively addressing the environmental impact from radioactive waste disposal in a rulemaking proceeding, the NRC complied in all respects with the procedural mandate of NEPA. It also dealt with the disposal issue in a way that was necessarily more accurate, efficient, and fair than repeated adjudication in licensing proceedings would have been. By requiring the NRC to permit licensing boards to reconsider that issue in connection with each application for a construction permit or operating license, the court of appeals imposed on the Commission demands —not found in NEPA—that undermine the advantages of generic rulemaking.

A. Determination Of The Environmental Impact Of Waste Disposal By Rulemaking Is Accurate, Efficient, And Fair

In *Vermont Yankee, supra*, 435 U.S. at 535 n.13, this Court noted that no one had "seriously question[ed]" "the Commission's authority to deal with fuel cycle issues by informal rulemaking as opposed to adjudication." There were numerous obvious reasons for unanimity on that score. Not only are the issues technologically sophisticated and complex, but their determination is ultimately as much a matter of judgment about policy as a determination of scientific facts. Moreover, decision in a rulemaking proceeding, by avoiding frequent repetition of the same task, makes more efficient the decisionmaking process

for reactor licensing—a process which in any event is time-consuming and expensive. Finally, rulemaking proceedings hold far more promise of meaningful public participation, thereby assuring a more accurate and informed decision.

There is no question that the issue of disposal of high-level radioactive waste is extraordinarily complex and technologically sophisticated. Even if consideration is confined to a single geological medium such as salt beds, selection of the site itself depends on "[t]opography, tectonics and seismicity, stratigraphy, structure, hydrology, and future geologic events" (NUREG-0116 at 4-73). The design and operation of the repository must then take account of the chemical, thermal, and mechanical effects of the waste itself, which emits heat and radiation and is chemically different from the salt bed (*id.* at 4-75 to 4-76). Finally, one must calculate the rate and method of waste transport from the repository on the assumption that it fails (*id.* at 4-86 to 4-99; Pet. App. 300a, 369a-370a).

The material relevant to a proper decision about such issues will inevitably be voluminous (see NUREG-0116 at 4-182 to 4-188), and participation in a meaningful fashion requires the assistance of experts. To repeat the process in connection with licensing proceedings for each proposed nuclear reactor would be particularly wasteful given that the disposal facilities ultimately built will accept spent fuel from a number of reactors, and it is impossible to know in advance which power plants will use which disposal facilities. Cf. 37 Fed. Reg. 24192 (1972). As the Second Circuit has recognized,

> most matters of technology assessment[] will be common to a number of proceedings. * * *

> The potential complexity of these issues, the fact that the number of people knowledgeable about the technology is apt to be small, and the likelihood the testimony adduced in separate hearings will be substantially repetitive, argue strongly that where possible the issues should be decided in the forum of a single proceeding.

Ecology Action v. *AEC*, 492 F.2d 998, 1002 n.5 (2d Cir. 1974) (Friendly, J.) (quoting Administrative Conference Proposed Recommendation 73-6).

The use of rulemaking proceedings is equally desirable for another reason. Whatever the scientific complexity involved in assessments of disposal technology, the ultimate judgment in NEPA proceedings involving such questions is one of policy. After some conclusion is reached about the prospects for finding a site and designing a facility that will work, it is still necessary for someone to decide what degree of certainty will justify proceeding with reactor licensing. That judgment is a quintessential policy choice —a balance of the values assigned to energy consumption, scarce resource allocation, economic growth, public health, the environment, our obligations to future generations, and so on. See Comment, *Implementing the National Environmental Policy Act Through Rulemaking: The Implications of Natural Resources Defense Council, Inc.* v. *Nuclear Regulatory Commission*, 126 U. Pa. L. Rev. 148, 177, 179, 183-184, 190, 193-194 (1977). As the Administrative Conference of the United States has recognized, "Congress [to say nothing of the courts] should never require trial-type procedures for resolving questions of policy or of broad or general fact." 1 C.F.R. 305.72-5 (Recommendation 3). Not only will reconsideration of the balance in individual proceedings do little to improve the correctness of the outcome, but the na-

ture of the choice demands that it be made (if not by Congress) at the most responsible level of the administrative process—in this case the NRC.

The use of generic rulemaking proceedings rather than reconsideration in individual licensing actions is also likely to improve the caliber of public participation. "[I]nterested organizations * * * may lack the necessary resources for appearances in all the individual cases in which the same generic issue is present." 1 C.F.R. 305.73-6(b). If they are able to focus their limited resources on one rulemaking the value of their participation, and presumably the quality of the decision, will be enhanced. Cf. *Ecology Action* v. *AEC*, *supra*, 492 F.2d at 1002. In this case, in addition to the staff of the NRC, there were 45 parties who participated in the final rulemaking proceeding (Pet. App. 357a). The hearing board allowed written direct testimony by all participants, and written questions and answers based on that testimony before the oral hearings. The hearings themselves lasted ten days, and were followed by written rebuttal testimony and final concluding statements by the parties. The NRC, after receiving the board's recommendations, took written statements from participants commenting on the rulemaking record, and then heard oral presentations from the commenters, followed by supplemental written submissions (*id.* at 357a-360a). That kind of sustained participation in numerous licensing proceedings would be beyond the means of many participants.

Not only the participants, but the users and producers of nuclear power, would be ill-served by needless repetition of proceedings addressing the same question. The generic rule at stake in this case was first proposed ten years ago. 37 Fed. Reg. 24191

(1972). Between then and now the rule has been revised a number of times, and each revision has been accompanied by further proceedings and judicial review. To undergo that same protracted process in connection with each individual reactor licensing would be both useless and expensive. Each repetition extends the already long licensing process, and thereby multiplies utility and consumer costs caused by purchased electricity, inflation in construction costs, and fixed costs associated with the facility (*Calvert Cliffs' Court Decision: Hearing Before the Senate Comm. on Interior and Insular Affairs*, 92d Cong., 1st Sess., Pt. 1, 292-293 (1971); *AEC Authorizing Legislation Fiscal Year 1974: Hearings Before the Joint Comm. on Atomic Energy*, 93d Cong., 1st Sess., Pt. 2, 787-788 (1973); see also 82-551 Pet. 14 n.17), to say nothing of the costs of processing the proposal itself. See 10 C.F.R. Part 170; Council on *Environmental Quality, Environmental Impact Statements: An Analysis of Six Years' Experience by Seventy Federal Agencies* 45-48 (1976).

B. Determination Of The Environmental Impact Of Waste Disposal By Rulemaking Is Consistent With The Procedural Requirements Of NEPA

Not only is the use of rulemaking proceedings to determine complex technological and policy issues accurate, efficient, and fair; it is also consistent with the procedural requirements of NEPA. Section 102(2)(C) of NEPA (42 U.S.C. 4332(2)(C)) provides:

> The Congress authorizes and directs that, to the fullest extent possible: * * *
>
> (2) all agencies of the Federal Government shall—
>
> * * * * *

> (C) include in every recommendation or report on proposals for * * * major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—
>
> (i) the environmental impact of the proposed action[.]
>
> * * * * *
>
> Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies * * * shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, and shall accompany the proposal through the existing agency review processes * * *.

One of Congress's chief concerns in adopting this "action-forcing" procedure was that consideration of environmental effects take place at an early stage in the decision-making process for "major Federal actions":

> In the past, environmental factors have frequently been ignored and omitted from consideration in the early stages of planning because of the difficulty of evaluating them in comparison with economic and technical factors. As a result, unless the results of planning are radically revised at the policy level * * * environmental enhancement opportunities may be foregone and unnecessary degradation incurred.

S. Rep. No. 91-296, *supra*, at 20; 115 Cong. Rec. 29055 (1969) (comments of Sen. Jackson) (NEPA should "prevent instances of environmental abuse and degradation caused by Federal actions before they

get off the planning board"); *id.* at 29059 (comments of Sen. Church) (awareness of environmental impact should be "built into the agencies' planning processes at the lowest levels, where, as we all know, most decisions are formulated and even finalized"). Thus, Section 102(2)(C) was made applicable at an early stage—to "proposals"; consultation with environmental agencies was ordered "[p]rior to [the] making [of] any detailed statement"; and the statement and comments were to "accompany the proposal through the existing agency review processes."

The use of rulemaking to determine the effects of waste disposal, though it may not be *required* by NEPA (*Kleppe* v. *Sierra Club*, 427 U.S. 390 (1976)), amply satisfies this procedural requirement. If the relevant "proposal" is an application for a reactor construction permit, the determination of environmental impact takes place well in advance of the "proposal" itself—Table S-3 applies to all *future* construction proposals. 10 C.F.R. 51.20. The NRC has made not only the factual determination of environmental effects for the typical reactor, but also the policy decision about "the effect of uncertainties on * * * cost-benefit balancing" (Pet. App. 368a). Its conclusion is that those uncertainties—to the extent they are not built into the Table—are not sufficiently grave to be decisive in any individual reactor licensing proceeding, and hence that they should not be weighed again by individual licensing boards (*ibid.*).

The second of Section 102(2)(C)'s procedural requirements is related to the first: the detailed statement of environmental impacts must be prepared by "the responsible official." Though the history of the Act does not define the term, the Report of the Senate Committee on Interior and Insular Affairs (where it

originated) indicates that its role is to assure that "environmental * * * studies have been given consideration in the decisions leading to the proposal." S. Rep. No. 91-296, *supra*, at 20. Thus, "the responsible official" must be one with authority to oversee the decision-making process in which environmental concerns should be brought to bear on proposals being formulated. In the case of reactor construction—though the proposal originates with individual utilities, and the initial determination is made by an Atomic Safety and Licensing Board—the ultimate authority to decide whether the proposal satisfies the requirements of NEPA rests with the Commission itself. 10 C.F.R. 2.721, 2.760, 2.785, and 2.786.[19] And by addressing fuel cycle impacts in a rule, the NRC has actually performed the first stage of the decision-making process: it has proposed and decided on the environmental policy relevant to waste disposal in advance of proposals for reactor construction.

The third procedural demand imposed by Section 102(2)(C) is that the agency prepare a "detailed statement" of environmental impacts. See *Weinberger* v. *Catholic Action*, 454 U.S. 139, 143 (1981). In individual licensing proceedings the "detailed statement" requirement is satisfied by the inclusion of Table S-3 in the environmental impact statement. 10 C.F.R. 51.20(e), 51.23(c), and 51.26(a). The Table itself states that data supporting it may be found in:

> the "Environmental Survey of the Uranium Fuel Cycle," WASH-1248, April 1974; the "Environ-

---

[19] The Commission has delegated its first-stage review authority to the Atomic Safety and Licensing Appeal Board. 10 C.F.R. 2.785.

> mental Survey of the Reprocessing and Waste Management Portion of the LWR Fuel Cycle," NUREG-0116 (Supp. 1 to WASH-1248); the "Public Comments and Task Force Responses Regarding the Environmental Survey of the Reprocessing and Waste Management Portions of the LWR Fuel Cycle," NUREG-0216 (Supp. 2 to WASH-1248); and in the record of the final rulemaking pertaining to Uranium Fuel Cycle Impacts from Spent Fuel Reprocessing and Radioactive Waste Management, Docket RM-50-3.

Pet. App. 382a-383a.[20] Those documents address at length both the likelihood that a repository can be located and function properly, and the uncertainties that exist. Given the extensive discussion of the problem of waste disposal in WASH-1248, NUREG-0116, NUREG-0216, more than 1100 pages of prepared direct testimony, two rounds of questions by participants and several hundred pages of responses, 1200 pages of oral hearings, participants' rebuttal testimony, concluding statements, the 137-page report of the hearing board, further written statements from participants, oral argument before the NRC, and the NRC's decision itself, it is impossible to contend that the issue was not given the extensive consideration and detailed statement required by Section 102(2)(C).

---

[20] It is well settled that studies supporting the conclusions in an EIS need not be physically attached to the statement, but need only be available and accessible. See, *e.g.*, *Philadelphia Council of Neighborhood Organizations* v. *Coleman*, 437 F. Supp. 1341, 1365-1366 (E.D. Pa. 1977), aff'd, 578 F.2d 1375 (3d Cir. 1978); *Upper West Fork River Watershed Association* v. *Corps of Engineers*, 414 F. Supp. 908, 927 (N.D. W.Va. 1976), aff'd, 556 F.2d 576 (4th Cir. 1977), cert. denied, 434 U.S. 1010 (1978); *Scientists' Institute for Public Information, Inc.* v. *AEC*, 481 F.2d 1079, 1092-1093 (D.C. Cir. 1973). See 40 C.F.R. 1502.21.

The court of appeals in fact recognized that the NRC had "repeatedly acknowledged the uncertainties involved in its 'judgments'" (Pet. App. 35a n.97), and had engaged in "investigation, analysis, and deliberation prior to the Rule's promulgation" (*id.* at 43a).

The final procedural step required by NEPA is to make the "detailed statement * * * available * * * to the public" (42 U.S.C. 4332(2)(C)), in order "to inform the public that the agency has considered environmental concerns in its decisionmaking process." *Weinberger* v. *Catholic Action*, *supra*, 454 U.S. at 143. That demand is satisfied by Table S-3 in two ways. In the first place, the Table is included in the environmental impact statements prepared for individual licensing proposals, and explicitly incorporates the background documents that are the basis for the NRC's choice of a disposal impact. 10 C.F.R. 51.20(e), 51.23(c), and 51.26(a). In the second place, there was extensive participation by the public and concerned agencies in the rulemaking proceeding itself, where the choice of impacts was made (Pet. App. 356a-360a).

Thus, NRC's determination to use Table S-3 for representing fuel cycle impacts fully complied with all the procedural requirements of NEPA. It was made, as NEPA urged that it be, well in advance of the licensing proposals to which it applies. It was also made by the most "responsible official" short of Congress itself—the Commission. It was reached after extensive consideration of the issues, and embodied in a detailed statement (the Table and supporting documents) that fully reveals both the strengths and uncertainties of the Commission's position. Finally, it has not only been made available for public consideration, but was formulated with the aid of extensive public participation.

C. The Procedures Mandated By The Court Of Appeals Exceed Those Required By NEPA

This Court has repeatedly stressed that "the only procedural requirements imposed by NEPA are those stated in the plain language of the Act." *Vermont Yankee*, *supra*, 435 U.S. at 548; *Kleppe* v. *Sierra Club*, *supra*, 427 U.S. at 405-406; cf. *Weinberger* v. *Catholic Action*, *supra*, 454 U.S. at 144-145 (agency "not required to prepare a 'hypothetical' EIS nowhere mentioned in NEPA"). The court of appeals nevertheless concluded in this case that "the Commission ha[d] not properly considered [environmental] costs" (Pet. App. 48a), because it had failed to comply with "[t]he decisionmaking structure mandated by section 102(2)(C)" (Pet. App. 32a). Concerning that "mandated structure" the court said:

> "[C]ompliance to the *'fullest'* extent possible would seem to demand that environmental issues be considered at every important stage in the decisionmaking process concerning a particular action—at every stage where an overall balancing of environmental and nonenvironmental factors is appropriate and where alterations might be made in the proposed action to minimize environmental costs."

Pet. App. 31a, quoting *Calvert Cliffs' Coordinating Committee, Inc.* v. *AEC*, *supra*, 449 F.2d at 1118 (emphasis in original). Table S-3, the court held, precludes consideration "to the fullest extent possible" because it does not allow licensing boards to consider the uncertainties attending waste disposal in cost/benefit analyses for individual licensing proceedings.

Of course, the "fullest extent possible" language in Section 102(2)(C) did not have for Congress the independent meaning that the court of appeals attributed to it. The phrase was adopted in conference as part of a compromise between Senator Jackson and

Congressman Aspinall. It was thought to be a "less restrictive" way of implementing the latter's concern that NEPA's action-forcing provisions impose no new obligations on federal agencies:

> The purpose of the new language is to make it clear that each agency of the Federal Government shall comply with the directives set out in such subparagraphs (A) through (H) unless the existing law applicable to such agency's operations expressly prohibits or makes full compliance with one of the directives impossible.

H.R. Rep. No. 91-765, 91st Cong., 1st Sess. 9 (1969); *Flint Ridge Development Co.* v. *Scenic Rivers Association*, 426 U.S. 776, 787-788 (1976); N. Orloff & G. Brooks, *The National Environmental Policy Act* 28-31 (1980). There is, in turn, nothing in subparagraphs (A) through (H) (42 U.S.C. 4332(2)(A)-(H)) that requires licensing boards to *reconsider* environmental issues already finally addressed by the agency itself. Thus the "decisionmaking structure" that the court of appeals thought was "mandated" by Section 102—consideration of waste disposal uncertainties "at every stage" in a licensing proceeding—is in fact *not* a requirement of the Act.[21]

---

[21] Nor, for that matter, is it even required by *Calvert Cliffs' Coordinating Committee, Inc.* v. *AEC*, *supra*, upon which the court of appeals relied for its idiosyncratic interpretation of Section 102. In *Calvert Cliffs'* the issue was whether the AEC could dispense with consideration of environmental concerns altogether, and rely simply on staff proposals, where the parties to licensing proceedings did not raise such issues. 449 F.2d at 1116-1117. The court held that independent review of staff proposals was required, and quite naturally suggested that that job fell to hearing boards in individual cases. *Id.* at 1118. It hardly meant to forbid review of staff proposals by the Commission itself, even if the Commission should preclude reconsideration of its own actions by hearing boards.

This is not the first time the court of appeals has gone astray by interpreting the language of *Calvert Cliffs'* rather

Not only is the procedure demanded by the court of appeals without any foundation in the Act; it is also a curiously defective method of implementing NEPA's environmental concerns. In promulgating Table S-3 the Commission has, after all, weighed for itself the uncertainties attending the problem of waste disposal. The court of appeals would have licensing boards weigh those uncertainties again, in order to "allow licensing decisions to be affected—either directly or indirectly—by the risk that nuclear waste will not be successfully isolated" (Pet. App. 46a). But, of course, the Commission may review the decisions of licensing boards (10 C.F.R. 2.721, 2.760, 2.785, and 2.786), and it would surely overturn any that rested on the very conclusion the court of appeals was determined to permit.

The requirement of consideration "at every stage" of the licensing process does not simply exceed the demands made by NEPA and provide an illusory procedural safeguard. It also rests on a devotion to theoretical niceties of cost/benefit analysis that here are both unrealistic and subversive of the advantages of generic rulemaking. The court of appeals did not hold that generic rulemaking was inherently improper. It stated that such an approach could be used to derive "generic values to be considered together with case-specific costs and benefits in individual proceedings" (Pet. App. 43a; footnote omitted). An exam-

---

than the language of the statute. See *Natural Resources Defense Council, Inc.* v. *NRC*, *supra*, 547 F.2d at 645 & n.34, 654 & n.60, rev'd, 435 U.S. 519 (1978); *Sierra Club* v. *Morton*, 514 F.2d 856, 879-881 (D.C. Cir. 1975), rev'd, 427 U.S. 390 (1976). See also *Students Challenging Regulatory Agency Procedures* v. *United States*, 371 F.Supp. 1291, 1299-1301 (D.D.C. 1974), rev'd, 422 U.S. 289, 321 n.20 (1975) (*Calvert Cliffs'* "would appear to conflict with the statute").

ple might be the treatment of gaseous effluents in Table S-3. The court also stated that generic costs might be eliminated altogether from consideration in individual cases, if they could be paired off with generic benefits of corresponding value (*id.* at 44a). But the NRC could not, the court held, determine in advance that the disposal issue alone should not be decisive, because that "cost" might make a difference "if a plant's cost-benefit balance is close" (*id.* at 47a; footnote omitted).

There is an element of unreality in that suggestion. If, contrary to the considered judgment of the Commission (and, one might add, of Congress; see pages 42-44, *infra*), the problem of disposal is insoluble, that "cost" would not only affect cases where the cost/benefit balance is close. It would mean that the NRC should refuse to license *any* nuclear power plants. It misses the forest for the trees to invalidate the rule, not because it would create that much larger problem (if its conclusions are wrong), but because it could add slightly to it by allowing a license in a "close" case. The court said that it did not question "the reasonableness of the Commission's conclusion that the probabilities favor the zero-release assumption" (Pet. App. 35a n.96). That should be an end of the matter for all cases, close or not.

The refinements of cost/benefit analysis ordered by the court of appeals, in addition to being unrealistic, are impossible to implement without subverting the very advantages the NRC sought through generic rulemaking. The court was understandably vague about how individual licensing boards should carry out the balance between uncertainties about disposal and the benefits from a new power plant. Not only is it difficult to assign numbers to either value, but the two kinds of values are harder still to weigh in

the same scale. One proposal advanced by the court was "instructing case-specific decision-makers to insert fictional values into their cost-benefit analyses" (Pet. App. 44a). But is is impossible to believe that in enacting Section 102(2)(C) Congress "mandated" a "decisionmaking structure" (Pet. App. 32a) using "fictional values." What NEPA says is that agencies should develop procedures for giving "unquantified environmental * * * values * * * appropriate consideration * * * along with economic and technical considerations" (42 U.S.C. 4332(2)(B)). Cost/benefit analysis may often be a useful procedure for giving such "appropriate consideration." It is in fact the method generally required by the NRC in environmental impact statements. 10 C.F.R. 51.20(b), 51.23(c), and 51.26(a). But as the courts have recognized in other contexts, it is inappropriate to demand that an agency cast its NEPA decisions in cost/benefit form where, as here, there is no scientific basis for quantified cost/benefit estimates. See *Natural Resources Defense Council, Inc.* v. *SEC*, 606 F.2d 1031, 1060 (D.C. Cir. 1979); *Environmental Defense Fund, Inc.* v. *Corps of Engineers*, 492 F.2d 1123, 1133 (5th Cir. 1974).

Short of plugging fictional values into Table S-3, it is hard to see how the Commission could permit licensing boards to weigh uncertainties about disposal without undermining the accuracy, efficiency, and fairness it sought to achieve by rulemaking. The alternative to "fictional values" would be simply to lay out the facts of the disposal question and the NRC's assessment of the risks—much as is done now in the Commission's statement on promulgation of the rule (Pet. App. 341a-377a), the Conclusions and Recommendations of the Hearing Board (*id.* at 274a-338a), WASH-1248, NUREG-0116, NUREG-0216, and the

record of the rulemaking proceeding. Licensing boards would then presumably decide the appropriate weight for those uncertainties in each case. But inevitably different boards (like different courts) would assign different weights to even a small risk of great harm. What value to assign to uncertainty is not a question of fact, but a judgment about policy that should be made at the most responsible level of the administrative process, and not in trial-type procedures. 1 C.F.R. 305.72-5 (Recommendation 3). Indeed, the very purpose of NEPA's Section 102 was to assure "substantial and *consistent* consideration of environmental factors in decisionmaking," S. Rep. No. 91-296, *supra*, at 19 (emphasis added), a purpose ill-served by the approach the court of appeals required.

Moreover, even if the NRC were to preclude taking further evidence on the question of disposal and to require licensing boards to rely on the record already made, parties in individual proceedings would still need to review and assess the Commission's conclusions in order to assign weight to them for use in the cost/benefit analysis. Though less onerous than the job of developing evidence, that procedure would nonetheless require the assistance of experts, and prolong the licensing proceeding.

II. THE COURT OF APPEALS IMPROPERLY IMPOSED ON THE NRC ITS OWN VIEWS ABOUT THE PROPER VALUE TO BE GIVEN TO ENVIRONMENTAL CONCERNS

The last time this case was before this Court, it concluded that "NEPA does set forth significant substantive goals for the Nation, but its mandate to the agencies is essentially procedural. * * * It is to insure a fully informed and well-considered decision, not necessarily a decision the judges of the Court of Ap-

peals * * * would have reached had they been members of the decisionmaking unit of the agency." *Vermont Yankee, supra*, 435 U.S. at 558. Since then, this Court has made the point more explicitly: "[O]nce an agency has made a decision subject to NEPA's procedural requirements, the only role for a court is to insure that the agency has considered the environmental consequences; it cannot 'interject itself within the area of discretion of the executive as to the choice of the action to be taken.'" *Strycker's Bay Neighborhood Council, Inc.* v. *Karlen*, 444 U.S. 223, 227-228 (1980), quoting *Kleppe* v. *Sierra Club*, *supra*, 427 U.S. at 410 n.21. The choice about whether to proceed in light of an acknowledged risk is precisely the kind of discretionary decision that Congress has left with the Commission. (See Pet. App. 171a-180a (Wilkey, J., dissenting).)

In this case the NRC's substantive conclusion has ample support in the record. NUREG-0116 concludes, on the basis of its consideration of the problem, that

> [t]he radiotoxic hazard index analyses and the modeling studies that have been done indicate that consequences of all but the most improbable events will be small. Risks (probabilities times consequences) inherent in the long term for geological disposal will therefore also be small.

Id. at 2-11. The hearing board also concluded (Pet. App. 298a-299a):

> We see no reason to doubt that the model repository could be constructed and operated to bury the wastes as proposed. The testimony in the record, including statements by the U.S. Geological Survey, supports the conclusion that sites can be found which satisfy the criteria being developed by the Department of Energy and the NRC.

The Commission itself acknowledged that, because no specific disposal site has yet been chosen, the evidence can only be "tentative" (Pet. App. 366a). It nevertheless concluded, on the basis of the record and its own deliberations, that what evidence there was, "coupled with the absence of any strong argument that a site cannot be found, probably affords as strong a record as can be made on the issue" of finding a suitable repository site (*ibid.*).[22] Concerning the escape of effluents from such a repository, the NRC found that "[t]he only apparent natural mechanisms cited which might reasonably cause major releases involved very low probability catastrophic events," while more likely occurrences such as leakage of water into the repository "would take tens of thousands of years" to transport radioactive materials out of the repository area (*id.* at 369a-370a). It also noted that Table S-3 incorporated the conservative assumption "that the spent fuel storage canisters and the fuel rod cladding will be corroded [before a repository is closed] * * *, and [that all] volatile materials in the fuel will escape to the environment" (*id.* at 365a).[23] Given that as-

---

[22] The Commission noted that it was not addressing this issue from every possible perspective. For example, "the likelihood of waste disposal being accomplished *safely*" (Pet. App. 368a & n.25 (emphasis added))—as the Atomic Energy Act requires—had been addressed in its original "waste confidence" decision, affirmed by the Second Circuit in *Natural Resources Defense Council, Inc.* v. *NRC*, 582 F.2d 166 (1978). It also noted its intent "to conduct a generic proceeding to reassess the outlook for the availability of safe waste disposal methods in light of new data and recent developments in the Federal waste management program" (Pet. App. 368a).

[23] Light-water nuclear reactor fuel consists of small cylindrical pellets of uranium dioxide, a ceramic, encased in long, thin metal tubes (cladding) to make fuel rods. A few hundred fuel rods are assembled parallel to each other in a square array to

sumption, and the improbability that materials would escape after sealing, the NRC found that the Table overall represented a conservative (inflated) statement of environmental impacts.[24] It thus concluded that whatever uncertainties attended its statement about burial of transuranic and high-level waste in a federal repository should not be a reason for withholding a license in any individual case. 46 Fed. Reg. 15155 (1981).

The court of appeals, by contrast, decided that those uncertainties *should* be decisive in at least some cases,

---

make a fuel assembly. A reactor core holds a hundred or more fuel assemblies. Each fuel assembly would be packaged in a separate stainless steel canister before burial in the repository. Table S-3 conservatively assumes that the canisters and cladding would be eaten away by salt during the six to 20 years before sealing of the repository, and that all the gaseous fission products would escape from the repository. Experimental evidence has shown that to be an unlikely occurrence. (J.A. 270.)

[24] Given the likelihood that a repository can be located and perform as expected, it was not unreasonable for the NRC to weigh the uncertainties in post-sealing releases by comparing them with an overestimate of pre-sealing releases. Its approach in fact comports with the demands made by the court of appeals. The court stated that it would be proper for the Commission to "weigh the costs and benefits against each other to produce a generic 'net value.' * * * A generic rule might be promulgated, for instance, designating that certain entries on one side of an individual action's ledger should be treated as zero, * * * and assigning offsetting values to certain entries on the other side of the ledger" (Pet. App. 44a). The court suggested no reason why the same process might not be performed by the use of "offsetting values" on the *same* side of the "ledger." Doing so in fact has the advantage of comparing post-sealing releases with more nearly commensurable pre-sealing releases, rather than with benefits—like the social advantages of nuclear power—that are harder to weigh in the same scale.

and hence that the Table S-3 rule was arbitrary and capricious in violation of the Administrative Procedure Act ("APA"), 5 U.S.C. 706 (Pet. App. 49a). One cannot seriously maintain, in light of the extensive record, that the NRC's decision was not "based on a *consideration* of the relevant factors * * *." *Citizens to Preserve Overton Park* v. *Volpe*, 401 U.S. 402, 416 (1971) (emphasis added). Neither did the court question "the reasonableness of the Commission's conclusion that the probabilities favor the zero-release assumption" (Pet. App. 35a n.96)—that is, it did not rule that the NRC had assigned too low a figure to the *chance* of harm occurring. The court rather found fault with the Commission for assigning too little *weight* in its environmental calculations to the possibility of harm from nondisposal. Neither NEPA nor the APA, however, authorizes a court to second-guess agency decisions about the relative importance of environmental values. As we emphasized above, the judicial role in enforcing the substantive goals of NEPA is limited to seeing that agencies consider them by complying with the Act's procedural commands. So too, under the APA, "the ultimate standard of review is a narrow one. The court is not empowered to substitute its judgment for that of the agency." *Citizens to Preserve Overton Park* v. *Volpe*, *supra*, 401 U.S. at 416. "The Commission's conclusion that * * * benefits outweighed any adverse impact * * * reflects the kind of judgment that is entrusted to it, a power to weigh the competing interests and arrive at a balance * * *." *Bowman Transportation, Inc.* v. *Arkansas-Best Freight System, Inc.*, 419 U.S. 281, 293 (1974).

The reasonableness of the NRC's decision not to accord decisive weight to the uncertainties attending

the waste disposal problem is apparent not simply from the record itself, but from the similar conclusions reached by others who have addressed the issue. On December 17, 1982 the Environmental Protection Agency ("EPA") issued proposed *Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes*, 47 Fed. Reg. 58196. Though the standards speak to what protection should be provided rather than what can be guaranteed, the EPA of necessity based its estimates on disposal systems "available now or * * * likely to be available in the near future" (*id.* at 58197). It concluded (*ibid.*):

> [W]e considered the long-term risks from disposal in mined geologic repositories. We concluded that well-designed repositories at well-chosen sites can keep potential radiation exposures to very low levels. In fact, because repositories appear to provide such good protection, we have chosen to propose disposal standards that limit the risks to future generations to a level no greater than the risks which those generations would be exposed to from equivalent amounts of unmined uranium ore. Thus, any risks to future generations from disposal of high-level wastes would be no greater than, and probably much less than, risks which those generations would face if the wastes had not been created in the first place.[25]

To the same effect is the *Report to the President by the Interagency Review Group on Nuclear Waste*

---

[25] The EPA noted that "the nation's electrical utilities currently generate about 2,000 metric tons of spent fuel per year. For comparison, chemically hazardous wastes regulated under the Resource Conservation and Recovery Act are produced at a rate of about 40,000,000 metric tons per year." 47 Fed. Reg. 58196 (1982).

Management 3 (1979), considered by the NRC in promulgating the fuel cycle rule (Pet. App. 376a & n.24):

> [T]he majority of informed technical opinion holds that * * * successful isolation of radioactive wastes from the biosphere appears feasible for periods of thousands of years.

Indeed, it is difficult to avoid the conclusion that Congress itself shared that assumption in enacting the Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425, 96 Stat. 2201 *et seq.* Section 121 of the Act, 96 Stat. 2228, requires that, by January of 1984, EPA and NRC promulgate standards for releases of radioactive material, and technical requirements and criteria for construction, operation, and closure of disposal repositories. Section 112(b), 96 Stat. 2208, requires the Secretary of Energy by January 1, 1985 to recommend to the President three possible sites for a repository. After presidential approval and further "site characterization" activities, the President must submit to Congress by March 31, 1987 "a recommendation of one site * * * that the President considers qualified for application for a construction authorization for a repository." Section 114(a)(2)(A), 96 Stat. 2213.[26] The NRC must then issue a decision approving or disapproving construction of the first repository by January 1, 1989. Section 114(d), 96 Stat. 2215.

As the House Report on the bill emphasized, "[s]cientific reviews of the proposed design of deep geologic

---

[26] The President may extend the deadline by a year if necessary. Section 114(a)(2)(B), 96 Stat. 2214. The governor and legislature of the state where the site is located, or the governing body of an Indian tribe on whose reservation it is located, may veto the choice (Section 115(b), 96 Stat. 2217) subject to congressional review (Section 115(c), 96 Stat. 2217).

repository systems repeatedly show that in principle the hazards of nuclear waste disposal are small." H.R. Rep. No. 97-491 (Pt. 1), 97th Cong., 2d Sess. 29 (1982). Congress was aware, however, that the lack of direction for a program of disposal was "seriously undermining the strength of the domestic nuclear industry" (*id.* at 28). In part, that consequence followed from judicial decisions like *Minnesota* v. *NRC*, *supra* note 12, which "linked legally the prospective licensing of future nuclear powerplants and a national confidence in the ultimate disposal of nuclear waste." S. Rep. No. 97-282, 97th Cong., 1st Sess. 3-4 (1981). For those reasons, among others, Congress enacted the bill (Section 111(b)(1), 96 Stat. 2207):

> to establish a schedule for the siting, construction, and operation of repositories that will provide a reasonable assurance that the public and the environment will be adequately protected from the hazards posed by high-level radioactive waste and such spent nuclear fuel as may be disposed of in a repository[.]

The NRC's decision that the waste disposal issue should not impede further reactor licensing is thus consonant with the Commission's obligations under NEPA, and amply justified in light of later actions by Congress and other concerned agencies. It is well to emphasize in addition—particularly in light of the court of appeals' conclusion that the NRC acted arbitrarily—the very limited nature of the judgment represented by the Table S-3 rule. What the Table states, in essence, is that NEPA does not forbid the issuance of a construction permit or operating license for any nuclear power plant simply because some uncertainty (which the NRC has concluded is small) attends the proper functioning of disposal facilities ultimately built to receive waste from the plant. The

Table does not say that plants permitted to be built may begin operation, or operating plants allowed to continue, if further investigation makes development of disposal facilities more doubtful. Nor does it authorize the disposal of waste in a facility that has not itself been subjected to NEPA review. Hence, the effect of the Table is only to allow construction of plants (an activity that produces no nuclear waste) and the operation of plants (which will generate spent fuel), subject to ongoing review by the NRC of the status of federal waste disposal programs.

Congress in the Nuclear Waste Policy Act has fixed a timetable that could result in approval of construction of the first repository by January 1, 1989 (Section 114(d), 96 Stat. 2215), and has required that the repository itself be subjected to NEPA review (Section 114(f), 96 Stat. 2216). In the interim, the NRC has undertaken a plenary proceeding (44 Fed. Reg. 61372 (1979)) to determine whether further reactor licensing, in light of new data and developments concerning disposal, is consistent with its mandate to protect the public health and safety under the Atomic Energy Act, 42 U.S.C. (& Supp. IV) 2011 *et seq.*—a requirement that may entail stricter scrutiny than does NEPA. More than 50 participants, including 20 states, have taken part in that "waste confidence" proceeding. A hearing was held before the NRC Commissioners in January 1982. We are informed by the NRC that it intends to reach a decision before June 30, 1983. Cf. *Potomac Alliance* v. *NRC*, 682 F.2d 1030, 1032 (D.C. Cir. 1982). That decision will, as the NRC noted in promulgating the Table S-3 rule, "reassess the outlook for the availability of safe waste disposal methods in light of new data and recent developments in the Federal waste management program" (Pet. App. 368a; footnote omitted).

III. THE ORIGINAL AND INTERIM RULES DID NOT PRECLUDE CONSIDERATION IN INDIVIDUAL LICENSING PROCEEDINGS OF THE HEALTH, SOCIOECONOMIC, AND CUMULATIVE EFFECTS OF THE URANIUM FUEL CYCLE

In its statement of environmental considerations for the uranium fuel cycle, Table S-3 describes effluents and other impacts in technical terms. For example, it says that operation of the typical reactor for a year may eventually result in the release of 400,000 curies of krypton-85 upon disposal of the spent fuel. The Table does not convert that description into tangible effects on human health, the economy, and so on. The court of appeals believed that the original and interim versions of the rule forbade consideration in individual proceedings of the health, socioeconomic, and cumulative effects of the environmental impacts stated in technical terms in the Table.[27] That defect, the court said, was an additional reason for holding the earlier versions of the rule invalid. The court's conclusion that the original and interim rules had such a preclusive effect is unsupported by the language of those rules, and is contradicted by the Commission's interpretation and the relevant agency case law.

What the original and interim rules said was that "the contribution of the environmental effects of * * * fuel cycle activities * * * shall be as set forth in the following Table S-3 * * *. No further discussion of such environmental effects shall be required" (Pet. App. 237a, 254a-255a). Obviously, the rule was in-

---

[27] The court's invalidation did not extend beyond April of 1978, when the interim rule was amended to make clear that such effects were proper subjects for consideration in individual proceedings (Pet. App. 60a, 265a).

tended to preclude further discussion of the amounts of effluents released annually by a reactor of a given size; if it were not, the NRC would have accomplished little by its attempt to make a generic determination of effluents and the use of resources. *In re Potomac Electric Power Co. (Douglas Point Nuclear Generating Station, Units 1 and 2)*, 8 A.E.C. 79, 79-80, 88-89 (1974).

As the final rule makes clear, however, there is a difference between the amounts of effluents caused by reactor construction and operation, and the tangible consequences that those effluents have on human health, economy, society, and so on. 10 C.F.R. 51.23(c). Cf. 40 C.F.R. 1508.14. To say, as the original and interim rules did, that effluent releases shall be "as set forth" in Table S-3 obviously says nothing about the consequences of such releases, which have not been "set forth." It was only "such environmental effects" as were "set forth" that individual proceedings were precluded from discussing further.

This point is evident from the NRC's comments on promulgation of the interim rule. The Commission stated that NUREG-0116 and NUREG-0216 "provide detailed narrative explanation of the new values in Table S-3 and give greater illumination to the background and context of the revised values" (Pet. App. 244a). NUREG-0216 contains an extensive appendix (App. C) on health effects of irradiation. Moreover, in response to a comment that Table S-3 should have presented dose commitments and resulting health effects, the Commission stated:

> The Commission has decided to keep the format of the new interim rule completely consistent with the original Table S-3, and therefore does not include dose commitments and health

> effects in the new table. That information is now available in this document, which may be used in individual actions as a "legislative history," illuminating the background and context of the values in the table.

NUREG-0216 at 3-7. The NRC made its permission more explicit in a 1978 clarifying amendment to the interim rule (Pet. App. 265a).

It is true, as the NRC pointed out when it promulgated the final rule, that the language of earlier versions "at least initially was apparently interpreted as cutting off" discussion of the effects of effluent releases (Pet. App. 348a). For that reason the language of the rule was changed in the amended interim and final versions. But even the notice accompanying the earlier versions stated that the Table was "to be used as a basis for *evaluating* the environmental effects in a cost-benefit analysis for a reactor" (Pet. App. 232a) (emphasis added), language that suggests the Table was not meant to foreclose discussing the consequences of effluent releases.

That the NRC staff did not address such matters during the first three years after promulgation of the original rule is attributable not to any direction in the rule, but to the fact that the

> repeated observation [in the notice of rulemaking] that fuel cycle effects were "insignificant" amounted to a Commission judgment implicit in the rule that no discussion of these effects was formally required.

(Pet. App. 350a.) Even the court of appeals, in its first review of the original rule, appeared to take it for granted that if Table S-3 were accurate, then fuel cycle effects would be insignificant. *Natural Resources Defense Council, Inc.* v. *NRC*,

supra, 547 F.2d at 642. See also 46 Fed. Reg. 15155 (1981). But when the Atomic Safety and Licensing Appeal Board suggested the desirability of discussing health effects for comparing nuclear with coal plants,[28] the staff sought and received permission from licensing boards to introduce evidence of public health consequences. Cf. *In re Public Service Co. of Indiana, Inc. (Marble Hill Nuclear Generating Station, Units 1 and 2)*, 7 N.R.C. 179, 187 (1978).

The court of appeals, in invalidating the earlier versions of the rule, pointed to no case where evidence concerning health or other consequences of the releases in Table S-3 was excluded from licensing proceedings. Its action amounts to holding those rules invalid on behalf of hypothetical intervenors in proceedings now closed, because of an effect the rules were not intended to have. What this Court said in *Vermont Yankee* should apply with equal force here (435 U.S. at 553): "[W]hile it is true that NEPA places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action, it is still incumbent upon intervenors who wish to participate to structure their participation so that it is meaningful, so that it alerts the agency to the intervenors' position and contentions. This is especially true when the intervenors are requesting the agency to embark upon an exploration of uncharted territory * * *."

---

[28] *In re Tennessee Valley Authority (Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B)*, 5 N.R.C. 92, 103 (1977).

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted.

REX E. LEE
Solicitor General

CAROL E. DINKINS
Assistant Attorney General

LOUIS F. CLAIBORNE
Deputy Solicitor General

JOHN H. GARVEY
Assistant to the Solicitor General

JACQUES B. GELIN
DAVID C. SHILTON
Attorneys

MARTIN G. MALSCH
Acting General Counsel

E. LEO SLAGGIE
Acting Solicitor

RICHARD S. MALLORY
Attorney
Nuclear Regulatory Commission

JANUARY 1983

☆ U. S. GOVERNMENT PRINTING OFFICE: 1983 397240 1271